

### **REMARKS/ARGUMENTS**

Claim 7 is objected. Claims 1, 7-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hinata (U.S. 6,369,865). Claims 1, 3-4 and 10-11 are rejected  
5 U.S.C. 102(b) as being anticipated by Colgan (US 6,483,498). Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata (U.S. 6,369,865) in view of Ikeda et al. (US 2001/0020986 A1). Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata (U.S. 6,369,865) in view of Mai (US 2004/0141096 A1).

10 **1. Objection of claim 7:**

Claim 7 is objected to because of the following informalities: The claim contains grammatical errors. Please correct “of the of the” to read as “of the.”

**Response:**

15 Claim 7 has been canceled as specified in the above Listing of Claims section, and is no longer in need of consideration.

**2. Rejection of claims 1, 7-9 and 12 under 35 U.S.C. 102(b):**

20 Claims 1, 7-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hinata for reasons of record, as recited on pages 2-3 of the above-indicated Office action.

**Response:**

25 Claim 1 has been amended to specifically describe the input-sensor-integrated liquid crystal display panel of the present application. The limitation of “*the second substrate having a color filter formed on the touch-detecting circuit*” added to claims 1 can be supported by the specification and the drawings. Claim 8 has been amended to correct a

grammatical error therein. The verb “dis-coincides” is used in place of the verb “dis-coincide” in claim 8. Furthermore, Claim 12 has been amended. The articles “a” and “an” is added in order to describe the touch-detecting circuit clearly in claim 12.

5        The traditional touch panel is consisted of a liquid crystal display panel and a detecting panel having the function of detecting touch signals, and made by stacking up the liquid crystal display panel and the detecting panel together. However, the stake of the two panels reduces optical quality, for instance, the decrease of light-permeability or the increase of reflection rate. Besides, the traditional touch panel might not be wildly  
10        acceptable due to the heavy weight. In contrast to the traditional touch panel, the present input-sensor-integrated liquid crystal display panel has the advantage of integrating a touch-controlling circuit into liquid crystal display panel. In other words, the liquid crystal display panel of the present application not only displays images but also detects touch signals. Therefore, the prior art problems, such as the decrease of optical quality and the heavy product weight, can be solved in accordance with the present application.  
15

According to the abstract and col. 2, lines 35-67 of Hinata’s disclosure, Hinata teaches a liquid crystal display device 1 having a pair of flexible transparent substrates 8a, 8b. The liquid crystal display device 1 also includes a transparent elastic member 4 so as  
20        to prevent degradation of the plastic film in a short time.

Please refer to Fig. 1, Fig. 2, col. 6, lines 11-16 of Hinata’s disclosure, it is shown that “The liquid crystal display device 1 is provided with a liquid crystal display device 2, an input device 3, and a transparent elastic member 4 to be arranged between the devices.” In other words, Hinata’s liquid crystal display device 1 is made by stacking up the liquid crystal display device 2, the input device 3 and the transparent elastic member 4. Hinata does not teach to **integrate** a touch-controlling circuit into a liquid crystal display panel. The stake of the liquid crystal display device 2, the input device 3 and the  
25

transparent elastic member 4 decreases the light-permeability and increases the reflection rate.

Compared with claim 1 of the present application, Hinata does not disclose:

- 5 (1) an input-sensor-integrated liquid crystal display panel, because Hinata does not teach to integrate a touch-controlling circuit into a liquid crystal display panel;
- (2) a second substrate **having** a touch-detecting circuit and a color filter formed on the touch-detecting circuit. Although Examiner consider the transparent elastic member 4 in Hinata's disclosure to be the second substrate of the present
- 10 application, Hinata does not teach to integrate a touch-controlling circuit and a color filter into the transparent elastic member 4; and
- (3) a liquid crystal layer **filled between the space formed by the first substrate and the second substrate**. Although Examiner consider the transparent elastic member 4 in Hinata's disclosure to be the second substrate, the liquid crystal layer
- 15 2 is not filled between the space formed by the substrate 8b and the transparent elastic member 4. In addition, Hinata does not teach to integrate a touch-controlling circuit into the top substrate 8a, so the top substrate 8a is not the second substrate.

20 Because Hinata does not teach the above-mentioned characteristics, the amended claim 1 should be allowable in consideration of 35 U.S.C. 102(b). Reconsideration of claim 1 is respectfully requested.

25 Claim 7 has been canceled as specified in the above Listing of Claims section, and is no longer in need of consideration. Since claims 8-9 and 12 are dependent upon the amended claim 1, they should be allowable if the amended claim 1 is allowable. Reconsideration of claims 8-9 and 12 is respectfully requested.

**3. Rejection of claims 1, 3-4 and 10-11 under 35 U.S.C. 102(b):**

Claims 1, 3-4 and 10-11 are rejected 35 U.S.C. 102(b) as being anticipated by Colgan for reasons of record, as recited on pages 4-5 of the above-indicated Office action.

5

**Response:**

As the above mentioned, claim 1 has been amended to contain limitations present in original claims 3 and 4 for overcoming the rejection. The limitation of “*the second substrate having a color filter formed on the touch-detecting circuit*” added to claims 1  
10 can be supported by the specification and the drawings. No new material has been introduced. Original claims 2-5, 7, 10 and 11 have subsequently been cancelled.

According to the amended claim 1, an input-sensor-integrated liquid crystal display panel 400 is provided. The input-sensor-integrated liquid crystal display panel 400  
15 comprises a first substrate 402 having at least one pixel controlling circuit 418; a second substrate 404 having a touch-detecting circuit 416 and a color filter 408 formed on the touch-detecting circuit 416, being positioned on top of the first substrate 402; and a liquid crystal layer 410 filled between the space formed by the first substrate 402 and the second substrate 404. Accordingly, the touch-detecting circuit 416 and the color filter 408 can  
20 both be protected by the second substrate 404 from the surroundings.

The Examiner considers the color filter array plate 18 in Colgan’s disclosure to be the second substrate in claim 1 and the color filter in claim 3 of the present application. However, Colgan does not teach that *the second substrate has a color filter formed on*  
25 *the touch-detecting circuit*. Since the present application integrates the touch-controlling circuit into the liquid crystal display panel, the touch-detecting circuit can be formed between the second substrate and the color filter. In other words, the touch-detecting circuit is actually a part of the second substrate in the present application, and the

conductive layer 32 is only stacked on the color filter array plate 18 in Colgan's disclosure.

5 The structure of Colgan's disclosure is different from the input-sensor-integrated liquid crystal display panel of the amended claim 1. Because Colgan does not teach that *the second substrate has a color filter formed on the touch-detecting circuit*, the amended claim 1 should be allowable under 35 U.S.C. 102(b) in consideration of Colgan's disclosure. Reconsideration of claim 1 is respectfully requested.

10 Claims 3-4, 10 and 11 have been canceled as specified in the above Listing of Claims section, and are no longer in need of consideration.

**4. Rejection of claims 2 and 6 under 35 U.S.C. 103(a):**

15 Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata in view of Ikeda et al. for reasons of record, as recited on pages 5-7 of the above-indicated Office action.

**Response:**

20 Claim 1 has been amended to contain limitations present in original claims 3 and 4. The limitation of "*the second substrate having a color filter formed on the touch-detecting circuit*" added to claims 1 can be supported by the specification and the drawings.

25 As the above mentioned, Hinata's liquid crystal display device 1 is made by stacking up the liquid crystal display device 2, the input device 3 and the transparent elastic member 4. Compared with claim 6 of the present application, Hinata does not disclose that the transparent electrode 22 of ITO is positioned on an inner side of the transparent elastic member 4 facing the substrate 8b. Compared with claim 1 of the

present application, Hinata does not disclose:

- (1) an input-sensor-integrated liquid crystal display panel;
- (2) a second substrate **having** a touch-detecting circuit and a color filter formed on the touch-detecting circuit; and
- 5 (3) a liquid crystal layer **filled between the space formed by the first substrate and the second substrate**.

On other hand, Ikeda et al. do not disclose that the second substrate 26 has a color filter formed on the touch-detecting circuit 27. The quality of the color filter 408 formed  
10 on the surface of the top substrate 404 in the present application is usually more reliable than the quality of the color filter formed on the surface of the bottom substrate in Ikeda's disclosure, because the color filter 408 formed on the top substrate 404 suffers less high-temperature processes during the manufacturing process of the liquid crystal display panel.

15

Neither Hinata nor Ikeda teaches that the second substrate has a color filter formed on the touch-detecting circuit, so the combination of Hinata's disclosure and Ikeda's disclosure does not disclose all the limitations of the structure in the amended claim 1. Therefore, the amended claim 1 should be allowable in consideration of 35 U.S.C. 103(a).  
20 Reconsideration of claim 1 is respectfully requested.

Claim 2 has been canceled as specified in the above Listing of Claims section, and is no longer in need of consideration. Since claim 6 is dependent upon the amended claim 1, it should be allowable if the amended claim 1 is allowable. Reconsideration of claim 6 is  
25 respectfully requested.

#### **5. Rejection of claim 5 under 35 U.S.C. 103(a):**

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata in

view of Mai for reasons of record, as recited on pages 7-8 of the above-indicated Office action.

**Response:**

- 5           Claim 5 has been canceled as specified in the above Listing of Claims section, and is no longer in need of consideration.

**6.New claims introduction:**

- 10           In order to emphasize that *the color filter and the touch-detecting circuit are formed on different sides of the second substrate*, **claims 13** is added, where claim 13 contains limitations present in original claims 1, 3 and 5 for overcoming the rejection.

- 15           Mai's display device is made by stacking up a touch panel 102 and a transmissive-type LCD device 100. Mai does not teach to integrate a touch-controlling circuit into a liquid crystal display panel. Although the color filter 130 and the transparent electrode layer 144 are formed on different side of the upper substrate 132 in Mai's disclosure, the transparent electrode layer 144 is not contained in the substrate 132. As a result, Mai does not teach all the limitations taught by our claim 1. Since neither Hinata nor Mai teaches to integrate a touch-controlling circuit into a liquid crystal display panel, and  
20           the transparent electrode layer 144 is not contained in the substrate 132 in Mai's disclosure, the combination of Hinata's disclosure and Mai's disclosure does not disclose all the limitations in claim 13 of the present application. Therefore, claim 13 should be allowable in consideration of 35 U.S.C. 103(a).

- 25           Furthermore, in order to emphasize that *the first substrate has a color filter on the pixel controlling circuit*, **claims 20** is added, where claim 20 contains limitations present in original claims 1 and 2 for overcoming the rejection.

Examiner points that Ikeda teaches a TFT substrate 3 having a color filter, but Ikeda does not teach the specific position of the color filter. Thus, Ikeda does not disclose clearly that the second substrate has a color filter formed on the touch-detecting circuit. On other hand, Hinata does not teaches a color filter contained in the display device, so  
5 Hinata does not disclose clearly that the second substrate has a color filter formed on the touch-detecting circuit either.

Neither Hinata nor Ikeda disclose clearly that the second substrate has a color filter formed on the touch-detecting circuit, so the combination of Hinata's disclosure and  
10 Ikeda's disclosure does not disclose all the limitations in claim 20 of the present application. Therefore, claim 20 should be allowable in consideration of 35 U.S.C. 103(a).

Claim 14 and claim 22 contain the limitation present in original claim 7 showing that  
15 the touch-detecting circuit is positioned on an outer side of the second substrate. Claims 15 and 23 contain the limitation present in original claim 8 showing that the first substrate dis-coincides with the second substrate and has at least one protrusion. Claim 16 and claim 24 contain the limitation present in original claim 9 showing that the protrusion includes a plurality of signal connecting contacts. Claims 17 and 25 contain the limitation  
20 present in original claim 10 showing that the input-sensor-integrated liquid crystal display panel comprises a polarizer. Claim 18 and claim 26 contain the limitation present in original claim 11 showing that the touch-detecting circuit is positioned between the second substrate and the polarizer. Claims 19 and 27 contain the limitation present in original claim 12 showing that the touch-detecting circuit is a resistance detecting circuit,  
25 a capacitance detecting circuit, a sound wave detecting circuit, or an optical detecting circuit. Claim 21 contain the limitation present in original claim 6 showing that the touch-detecting circuit is positioned on an inner side of the second substrate facing the first substrate.



Appl. No. 10/711,213  
Amdt. dated March 15, 2007  
Reply to Office action of December 18, 2006

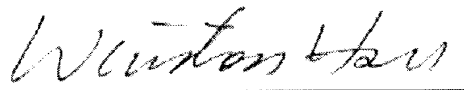
All of the newly added claims are fully supported by the specification of the present application, and applicant believes that the new claims are not disclosed in the cited references. Therefore, consideration of claims 13-27 is politely requested.

5

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

10



Date: 03/15/2007

Winston Hsu, Patent Agent No. 41,526

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

15 Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)

20